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PATENT SPECIFICATION

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(54) BATHS

(71) I, STANLEY LESLIE SIERANT of Marlands, Cross Roads, Keighley, Yorkshire BD21 5QE, a British Subject, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:

The invention relates to baths, and more particularly to automatic baths which have means for aerating the bath water while a person is in the bath with a view to providing a washing action and a beneficial skin and/or body treatment, for humans or animals.

The invention provides a bath comprising a tub portion having a generally rectangular recess therein and a generally rectangular platform fitting snugly within said recess, 20 said platform comprising:

(a) an upper sheet-like member forming an upper face of said platform and having first and second sets of a plurality of exit apertures passing therethrough;

(b) a lower sheet-like member sealed to said upper sheet-like member and forming the lower face of said platform;

(c) a plurality of ribs and recesses on at least one of said sheet-like members, said 30 ribs and recesses cooperating with the other of said sheet-like members to define first and second passageways within said platform, said passageways being isolated from each other and said first and second passageways being in registration with said first and second sets of apertures respectively;

(d) a first inlet aperture in said lower sheet-like member and communicating with said first passageway; and

(e) a second inlet aperture in said lower sheet-like member and communicating with said second passageway; an air supply conduit extending from said first inlet aperture through the underside of said tub portion 45 of said bath in sealed relationship there-

with for directing air into said first passageway, distributing said air within said platform throughout said first passageway and projecting said air from the platform through said first set of exit apertures; and 50 a water supply conduit extending from said second inlet aperture through the underside of said tub portion of said bath in sealed relationship therewith for directing water into said second passageway, distributing 55 water within said platform throughout said second passageway and projecting said water from said platform through said second set of exit apertures.

Preferably said second passageway extends about at least part of said platform adjacent its periphery.

Preferably said first passageway extends over the central area of said platform.

Preferably said platform is generally rectangular, said second passageway being generally U-shaped and extending along two sides and one end of said platform and said first passageway occupying a substantial part of the area lying within said U-shaped 70 second passageway.

Preferably said platform comprises at least one reinforcing member extending through said first passageway between said upper and lower sheet-like members to increase the rigidity and strength of the platform.

Preferably there is an inlet for water at one end of the platform, leading to the passageway for the supply of water, and 80 there is an inlet for air at the opposite end of the device, leading to the passageway for the supply of air. Alternatively however, the two inlets may be at the same end of the platform, or at the same side 85 of the platform, or at opposite sides of the platform.

There may be a recess or indentation in one edge of the platform, so that when the platform is positioned in a bath, water may 90

flow out of the bath, passing between the panel and a wall of the bath, through the recess or indentation.

The bath may be arranged in combination 5 with a blower for use in blowing air into the passageway for the supply of air to the platform.

By way of example, a specific embodiment 10 of the invention will now be described, with reference to the accompanying drawings, in which:—

Figure 1 is a plan view of one embodiment 15 of a platform;

Figure 2 is an underplan of the device 20 shown in Figure 1;

Figure 3 is a transverse section through the device, on the line III-III of Figure 2;

Figure 4 is a longitudinal section on the line IV-IV of Figure 2, showing the device 25 in position in a bath; and

Figure 5 is a plan view of the platform 30 in position in the bath.

The platform shown in the Figures comprises two sheet-like members of fibres 35 reinforced resin, secured together face-to-face. The first sheet-like member 10 is substantially planar and rectangular, but there is a small recess 11 at one end and the member has a flange 12 extending 40 around its entire periphery, except for a cut-away portion 40, provided for a purpose described below. On the upper surface of the member 10, extending along each longitudinal peripheral edge and one 45 transverse peripheral edge, there is a groove 13. Spaced apart along the groove is a series of perforations 14. At each end of the member 10 there are two pairs of shorter longitudinally extending grooves 15, one pair at each side of the member, and each groove 15 has a series of perforations 16 therein. Over the central portion of the member 10, there is a plurality of transversely extending grooves 17, each having 50 a series of perforations 18 therein.

The second sheet-like member 19, is of such a size as to fit closely within the flange 55 12 and abut against the member 10. However the member 19 has two sets of recesses 13 or depressions therein, which, with the member 10, define two sets of separate passageways. The first set of depressions comprises a trapezium-shaped depression 20 at one end of the member, from which two channels 21 extend. Each channel extends from the depression 20 along the end of the member 19 and thence along the longitudinal edge of the member 19. When the members 10 and 19 are secured together, there 60 is formed a chamber 22 (Figure 4) from which two passageways 23 extend. The passageways 23 are in registration with the groove 13 and the perforations 14 communicate with the passageways. The depression 20 has a larger perforation 24 therein,

which provides an inlet aperture to the chamber 22.

A further large central depression 25 provides a chamber 26. The depression is generally rectangular, except for a recess at 70 one end to skirt the depression 20, and a further recess 27 at the opposite end to provide room for a waste outlet as described below. The depression 25 registers with the grooves 15 and 17, and the perforations 75 16 and 18 communicate with the chamber 26. There is an aperture 28 in the depression 25, at the opposite end of the platform from the perforation 24, to provide an inlet to the chamber 26. Two parallel longitudinal 80 portions 29 of the member 19 remain un-depressed, thereby providing strengthening ribs for the platform, supporting the central part of the member 10. The members 10 and 19 are secured together by adhesive, 85 and additional resin 41 is applied where indicated in Figure 3, to ensure that the water passageways 23 cannot communicate with the air chamber 26.

In use, the platform is fitted into a rect- 90 angular recess in the bottom of a bath 30, as shown in Figures 4 and 5. A pipe 31 for the supply of water passes through an aperture in the bottom of the bath and is connected to the perforations 24 in a fluid-tight manner. A pipe 32 for the supply 95 of air is similarly connected to the perforation 28. A fluid-tight seal is provided between each pipe 31 and 32 and the walls of the associated aperture in the base of 100 the bath, by any convenient means.

The waste outlet 33 of the bath, which is of the "pop-up" type, is positioned so that it communicates with the recess 27 formed by the undepressed portion of the 105 member 19. It is thus concealed from view. The water supply pipe 31 is connected via a mixer valve (not shown) to supplies for hot and cold water. The hot and cold water supplies are controlled by two taps 110 34, arranged at one side of the bath. A central control 35 operates a valve closing the waste outlet 33 of the bath. An electrically or power operated blower (not 115 shown) is connected to the air inlet pipe 32 and this blower is controlled by a switch (not shown) positioned adjacent to the bath. The switch is preferably of the kind operated by a hanging cord, to reduce or eliminate the risk of electric shock. 120

The bath has one handrail 36 extending along one side, and has two shorter handrails 37 at the opposite side, one on each side of the controls 34 and 35. The bath also has rests 38, for the head or feet, one 125 at each end of the bath. A user of the bath may for example sit or lie directly on the platform, bracing their feet against the vertical wall 39 of one of the foot-rests. A taller user may rest his head on one, 130

and his feet on the other head-foot-rest, and these head-foot-rests can also be used as seats.

In use the taps 34 are adjusted as required 5 and water at the desired temperature emerges from the mixing valve and passes through the pipe 31 into the chamber 22. From the chamber 22 it passes along the passages 23 and sprays out of the perforation 14. Liquid soap or bubble-bath mixture is added to the water in the bath and the air blower is switched on. Air is blown into the chamber 26 through the pipe 32 and emerges from the perforations 16 and 10 18 as a mass of fine air bubbles which have a cleansing and massaging effect on the occupant of the bath. It is unnecessary for the occupant to perform any washing or scrubbing action, as the bath operates 15 20 as a form of human washing machine.

When it is desired to empty the bath, the air blower is switched off and the control 35 is operated to raise the 'pop-up' waste outlet. Water then flows down through 25 the recess 11, into the recess 27 through the cut-away part 40 of the flange 12, and out of the outlet. The recess 11 and cut-away part 40 not only allow the exit of water, but are also useful during assembly or 30 dismantling of the bath, for allowing a hand to grasp one end of the platform to lower it into the rectangular recess in the bottom of the bath, or lift it out. Furthermore, it is possible for the fingers of a hand to reach 35 the waste outlet when the bath is installed and in use, for example to free any blockage of the outlet.

The platform shown in the Figures provides a particularly efficient and convenient 40 means of providing a bath with means for aerating water within the bath. Only two components are required, which can be easily moulded and secured together. There is no necessity to form special passageways 45 for air and water in the bath itself. It is only necessary to position the platform in the bath and make two connections to the device, one to admit air and one to admit water.

50 The bath is not "sided" or "handed" in that it can be arranged with the water inlet at the left-hand end of the bath as viewed in Figures 4 and 5, and the air inlet at the right-hand end, if so desired. All that is 55 necessary is to turn the platform around, and make the appropriate connections. The waste outlet must be arranged at the air inlet end, so as to register with the recess 27, but the bath 30 has the position of an 60 outlet aperture marked at each end and the plumber or other installer merely cuts out the aperture at the marked position at the desired end.

The invention is not restricted to the de- 65 tails of the foregoing embodiment. For

instance it is not essential for the platform to be made of fibre-reinforced resin. It may for example be made of others plastics material (e.g. acrylic), rubber, or any metal which is resistant to corrosion by water.

70 Although the platform is primarily intended for use with domestic baths, a similar device may also be used in larger baths or pools, in showers where the tray is at least 4" (10 cm) deep, or in baths of any unusual shapes. The shape of the platform may follow the shape of the container with air being distributed centrally, and water being distributed around the periphery. The air agitates the water, and the water supplied upwardly secures an even-temperature distribution throughout the bath.

75 The bath may be smaller, e.g. with a single rest 38 at one end, or with a single headrest in the form of a recess to receive 80 the head in the rim of the bath.

The arrangement of controls and handrails may be altered as desired and there may be provision for thermostatic control of the water temperature. There may be 90 more or less handrails or other handholds, arranged in different positions. There may be two recesses in the rim of the bath, at opposite sides of the bath, one containing the controls and one containing a handrail 95 or other handhold. Such an arrangement may be particularly suitable for a smaller bath than that shown. Instead of two taps there may be a single tap or other control, movement of the control in one direction 100 providing progressively hotter water and movement in the opposite direction providing progressively colder water.

105 The bath may be much larger than that shown and the invention, may for example be applicable to swimming pools or baths for race-horses. The platform may be moulded in one piece e.g. by injection moulding, formed in glass-fibre or rubber, etc. Warm or hot air may be supplied e.g. 110 by using an arrangement which compresses the air before it emerges from the perforations in the platform.

WHAT I CLAIM IS:—

1. A bath comprising a tub portion having a generally rectangular recess therein and a generally rectangular platform fitting snugly within said recess, said platform comprising:
 - (a) an upper sheet-like member forming an upper face of said platform and having first and second sets of a plurality of exit apertures passing therethrough;
 - (b) a lower sheet-like member sealed to said upper sheet-like member and forming the lower face of said platform;
 - (c) a plurality of ribs and recesses on at least one of said sheet-like members,

- 5 said ribs and recesses cooperating with the other of said sheet-like members to define first and second passageways within said platform, said passageways being isolated from each other and said first and second passageways being in registration with said first and second sets of apertures respectively;
- 10 (d) a first inlet aperture in said lower sheet-like member and communicating with said first passageway; and
 (e) a second inlet aperture in said lower sheet-like member and communicating with said second passageway; an air supply conduit extending from said first inlet aperture through the underside of said tub portion of said bath in sealed relationship therewith for directing air into said first passageway, distributing said air within said platform throughout said first passageway and projecting said air from the platform through said first set of exit apertures; and a water supply conduit extending from said second inlet aperture through the underside of said tub portion of said bath in sealed relationship therewith for directing water into said second passageway, distributing water within said platform throughout said second passageway and projecting said water from said platform through said second set of exit apertures.
- 15 2. A bath as claimed in claim 1 in which said second passageway extends about at least part of said platform adjacent its periphery.
- 20 3. A bath as claimed in claim 2 in which
- 25 said first passageway extends over the central area of said platform.
- 30 4. A bath as claimed in claim 3 in which said platform is generally rectangular, said second passageway being generally U-shaped and extending along two sides and one end of said platform and said first passageway occupying a substantial part of the area lying within said U-shaped second passageway.
- 35 5. A bath as claimed in claim 4 wherein said platform comprises at least one reinforcing member extending through said first passageway between said upper and lower sheet-like members to increase the rigidity and strength of the platform.
- 40 6. A bath as claimed in claim 1 in which said first set of exit apertures are from 0.025 to 0.100 inch in diameter.
- 45 7. A bath as claimed in claim 1 in which said first and second inlet apertures are located adjacent opposite ends of said platform.
- 50 8. A bath as claimed in claim 1 wherein one edge of said platform includes a recess adapted to permit water contained in said bath to flow therefrom between said platform and a wall of said bath and through said recess.
- 55 9. A bath as claimed in claim 1 wherein said tub portion includes an internal step portion at at least one end thereof to serve as a foot rest or head rest.
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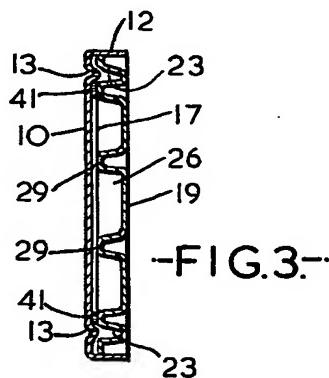
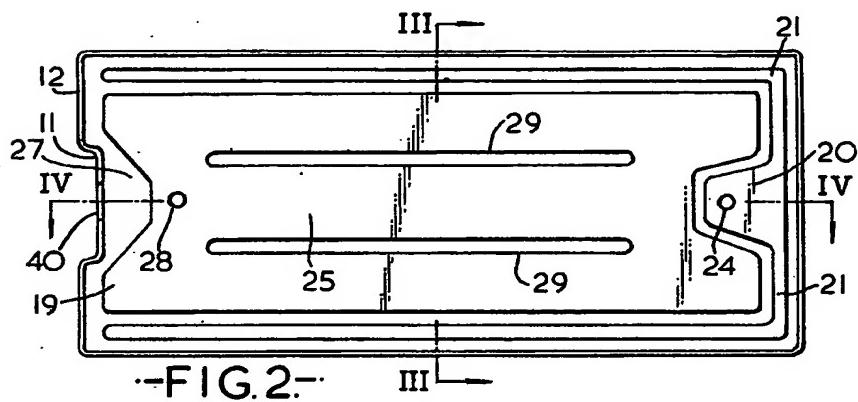
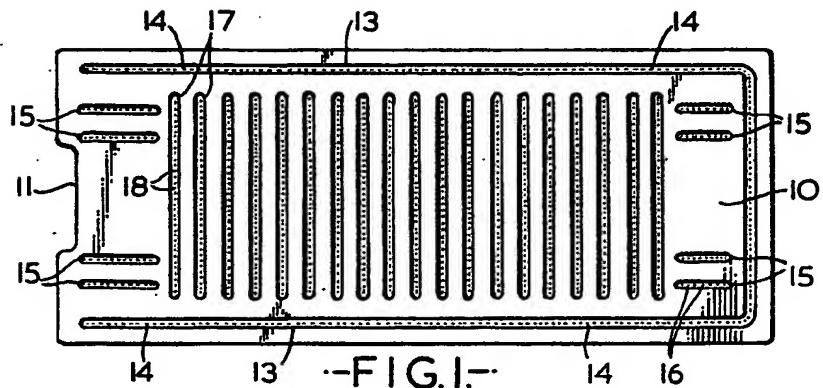
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3 SHEETS

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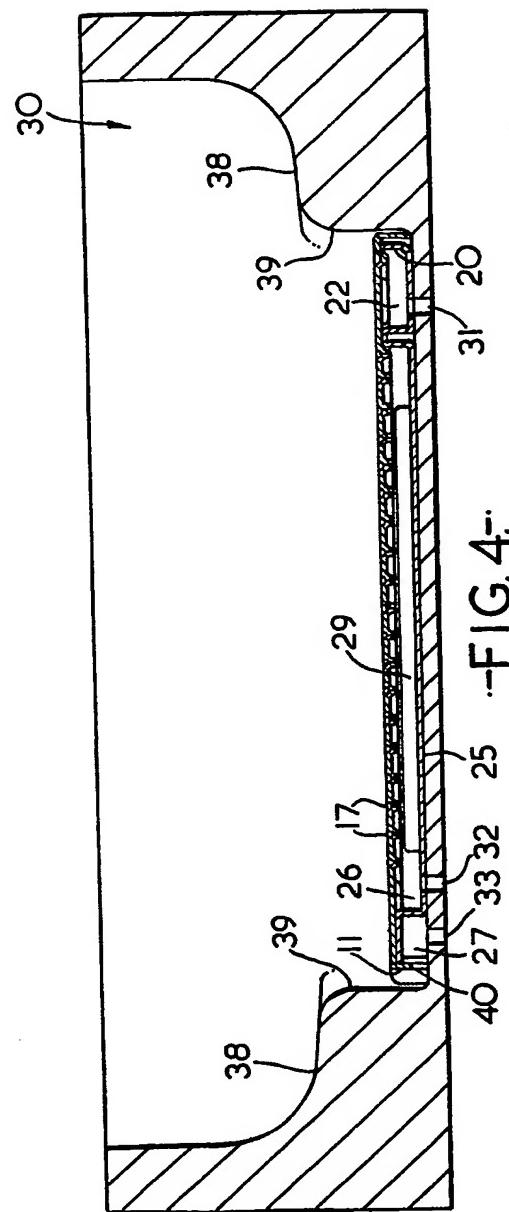


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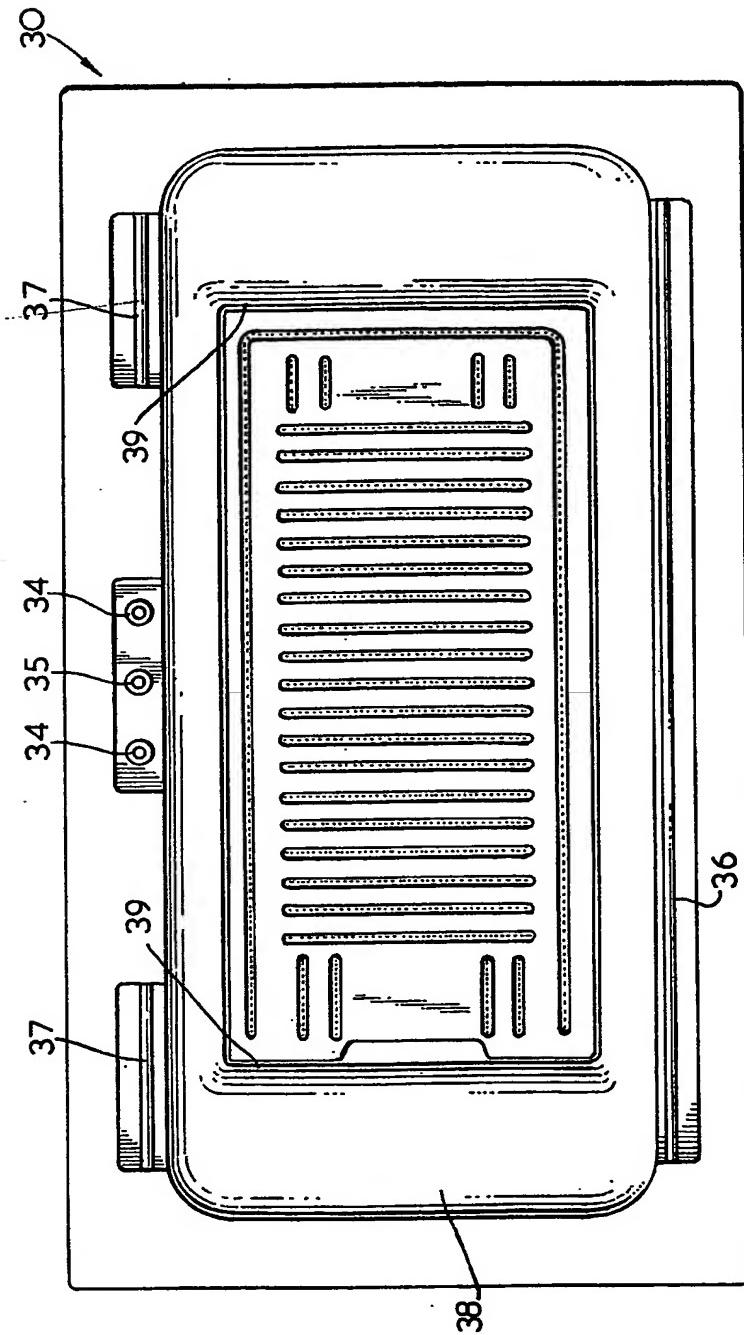


-FIG. 4.-

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SHEET 3*



-FIG. 5.-